

REMARKS**Summary of the Office Action**

Claims 1-3, 11, and 15-17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ikeyama (U.S. Patent No. 4,706,072) (hereinafter "Ikeyama").

Claims 4-6, 12 and 18 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Rejections under 35 U.S.C. § 102(b)

Claims 1-3, 11, and 15-17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ikeyama. The Examiner asserts, at page 2, section 2 of the Office Action, that "the sharp and transient rise in the heartbeat results in the instant increase in the heart rate or heart rate signal and the fatigue level is judged based on the heart rate threshold as seen in Figure 3a; col. 8, lines 17-68 ..." of Ikeyama. Applicants respectfully traverse this interpretation for at least the following reasons.

In col. 8, lines 38-41, Ikeyama discloses "[i]n other words, referring to Table 1, in the event the driver falls into a doze while driving a road-vehicle, fluctuations in heartbeat period are rapidly increased (emphasis added)." In other words, Applicants respectfully submit that what is increased in the disclosure of Ikeyama are the fluctuations in heartbeat period, but not "the sharp and transient rise in the heartbeat" as described in the claims of the instant application.

Applicants respectfully submit that the increase of the fluctuations in the heartbeat period, as disclosed in Ikeyama, means that parasympathetic nerves rise. When the parasympathetic nerves rise, a driver feels increased mental relaxation and feels sleepy. In Table 1 of Ikeyama, the fluctuations in heartbeat period indicated in the column labeled ΔL become

large when the subject driver is in the "relaxation" and "sleeping" states shown in the "human condition" column of Table 1.

On the other hand, "the sharp and transient rise in the heartbeat" as described in the disclosure of the instant application means that a driver is experiencing mental strain and, as a result, his sympathetic nerves rise temporarily. In this condition, a determination is made that the driver's fatigue level is high and the driver is tired, as clearly described, for example, at lines 9-23 on page 9 of the instant application's specification.

Therefore, Applicants respectfully submit that the teaching of an increase of the fluctuations in heartbeat period of Ikeyama relates to a concept having an entirely opposite meaning to "the sharp and transient rise in the heartbeat" described in the instant application's claims. As a result, Ikeyama does not disclose the features described in the claimed combinations of the instant application to any extent. Instead, Ikeyama clearly teaches away from the concepts described in the instant application's claim for the reasons discussed previously.

Accordingly, Applicants respectfully assert that the rejections under 35 U.S.C. § 102(e) should be withdrawn because Ikeyama does not teach or suggest each feature of independent claims 1, 11 and 17. As pointed out in MPEP § 2131, "[t]o anticipate a claim, the reference must teach every element of the claim." Thus, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Co. Of California, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987)." Furthermore, Applicants respectfully assert that the remaining dependent claims are allowable at least because of their dependence from independent claim 1, 11 and 17, and the reasons set forth above.

The Examiner is thanked for the indication that claims 4-6, 12 and 18, while objected to as being dependent upon a rejected base claim, would be allowable if rewritten in independent form. However, Applicants respectfully submit that these claims are also allowable at least because of their dependence from independent claims 1, 11 or 17 of the instant application. Accordingly, withdrawal of the objection to these claims is respectfully requested.

Finally, the Examiner is reminded that claims 1-3, 11 and 15-17 have been indicated as being generic to the elected claims of Group I. Accordingly, should no prior art be found rendering the generic claims nonpatentable, the search of the application should be extended to any claims of the non-elected species.

CONCLUSION

In view of the foregoing, Applicants submit that the pending claims are in condition for allowance, and respectfully request reconsideration and timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution. A favorable action is awaited.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0573. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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